(a) installing at least one ceramic part made of a non-oxide ceramic material and having a machined and/or sintered surface in an interior space of a vacuum processing chamber so that the surface is exposed to the interior space;

(b) after step (a), treating the exposed surface to reduce particles of the non-oxide ceramic material attached to the exposed surface by a high intensity plasma conditioning treatment;

(c) after step (b), processing at least one production wafer by supplying process gas to the processing chamber; and

(d) removing the at least one production wafer from the processing chamber.

2. (Amended) The method according to Claim 1, wherein the processing chamber includes a substantially planar antenna which energizes the process gas into a plasma state by supplying RF power to the antenna and the process gas comprising at least one fluorocarbon gas, the conditioning treatment further including conditioning the exposed surface by energizing the fluorocarbon gas into a plasma state and contacting the exposed surface with the plasma.

3. (Amended) The method according to Claim 2, wherein the plasma comprises a high density plasma and the production wafers are processed by etching an oxide layer on the substrates with the high density plasma while supplying an RF bias to the substrates.

4. (Amended) The method according to Claim 1, wherein the ceramic part comprises a gas distribution plate supplying the process gas to the processing chamber and the processing chamber includes a substantially planar coil which energizes the process gas into a plasma state by supplying RF power to the antenna, the conditioning treatment further including conditioning the exposed surface by adjusting pressure in the processing chamber to 200 to 500 mTorr, supplying the coil with 2000 to 2500 W of radio frequency power, and/or changing coil termination capacitance of the coil so as to move an area of higher intensity plasma across the gas distribution plate.

8. (Amended) The method according to Claim 1, wherein the conditioning treatment comprises conditioning the ceramic part by processing a single batch of non-production wafers in the processing chamber.

9. (Amended) The method according to Claim 1, wherein the processing chamber comprises a plasma reactor, the conditioning treatment comprising treating the exposed surface of the ceramic part with a high density plasma while powering the ceramic part to increase ion bombardment thereof.

10. (Amended) The method according to Claim 1, wherein the processing chamber comprises a plasma reactor, the conditioning treatment comprising treating the exposed surface of the ceramic part with a high density plasma generated by energizing a halogen gas into a plasma state.

11. (Amended) The method according to Claim 1, wherein the processing chamber comprises a plasma reactor, the conditioning treatment comprising treating the exposed surface of the ceramic part with a high density plasma generated by energizing an inert gas into a plasma state.

12. (Amended) The method according to Claim 1, wherein the processing chamber comprises a plasma reactor, the conditioning treatment comprising treating the exposed surface of the ceramic part with a high density plasma generated by energizing oxygen gas into a plasma state.

13. (Amended) The method according to Claim 1, wherein the processing chamber comprises a plasma reactor and the ceramic part is a silicon carbide part, the conditioning treatment comprising treating the exposed surface of the ceramic part with a high density plasma generated by energizing a fluorine containing gas into a plasma state.

14. (Twice Amended) A method of processing semiconductor substrates and reducing particle contamination during processing of the substrates, the method comprising:

(a) placing at least one production wafer on a substrate holder in an interior space of a vacuum processing chamber, the processing chamber comprising a plasma reactor and including at least one ceramic part made of a non-oxide ceramic material and having a machined and/or sintered surface exposed to the interior space, the exposed surface having been treated to reduce particles of the non-oxide ceramic material attached to the exposed

surface by a high intensity plasma conditioning treatment (i) after the part having been installed in the processing chamber and (ii) before processing production wafers in the processing chamber with the part installed in the processing chamber, the conditioning treatment comprising treating the exposed surface with a high density plasma while seasoning the processing chamber;

(b) processing the at least one production wafer by supplying process gas to the processing chamber; and

(c) removing the at least one production wafer from the processing chamber.

15. (Twice Amended) A method of plasma conditioning a machined and/or sintered surface of a ceramic part of a semiconductor processing chamber, the part being made of a ceramic material, the method comprising treating the surface to reduce particles of the ceramic material attached to the surface by contacting the surface with a high intensity plasma before processing production wafers in the processing chamber with the ceramic part being present in the processing chamber.

19. (Amended) The method according to Claim 18, wherein the processing chamber comprises a single wafer plasma reactor, the method further comprising plasma conditioning the exposed surface of the ceramic part while sequentially treating semiconductor substrates in the processing chamber.

36. (Amended) The method according to Claim 15, further comprising:

a) installing the ceramic part in a plasma reactor;

b) after a) and before processing production wafers in the processing chamber with the ceramic part installed in the plasma reactor, treating the surface of the ceramic part with the high intensity plasma in the plasma reactor; and

c) after b), processing production wafers in the plasma reactor.